

CERTAMEN MELASTOMATACEIS XXVI.

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The current assemblage of melastome notes, mostly culled from research in and loans from European herbaria, continues the final adjustments for the Flora of Ecuador. The data were gathered during a 1975 trip sponsored by the Smithsonian Research Foundation.

TIBOUCHINA GLEASONIANA Wurdack, nom. et stat. nov.

Tibouchina lepidota (Bonpl.) Baill. var. intermedia Gleason, Bull. Torrey Club 52: 328. 1925.

The pubescence on the leaves beneath is quite distinctive, the secondary nerves being covered with lanceate strongly flattened ciliate hairs 0.25-0.3 mm wide and the venules with terete simple or few-barbellate setulae; in T. lepidota, all the hairs on the leaves beneath are flattened scales and in T. paleacea (Triana) Cogn. sens. strict. the secondary vein trichomes are narrow (0.1-0.15 mm wide) and not ciliate. The margins of the hypanthial hairs in T. gleasoniana, like those in T. lepidota, are conspicuously appressed-ciliate; in T. paleacea (except for one population near the Huila-Cauca boundary in Colombia, Maguire & Maguire 44204, Uribe 3868), the hypanthial scales have essentially entire margins. Tibouchina gleasoniana is known from Imbabura, Pichincha, and Bolívar in Ecuador; of these collections, Jameson 419 was cited by Cogniaux as T. lepidota. Two recent excellent matches for the Triana and Linden syntypes of T. paleacea are Killip & Varela 34651 (Tolima) and von Sneider 3086 bis (Caldas). Within the currently available collections of T. lepidota are several local pubescence variants.

TIBOUCHINA NARINOENSIS Wurdack, sp. nov.

T. paleaceae (Triana) Cogn. in foliorum pubescentia affinis, bracteae floribusque minoribus hypanthii paleis parvis differt.

Ramuli sicut petioli foliorum subtus venae primariae inflorescentiaque dense pilis paleaceis plerumque 1-2(-3) X 0.3-0.6 mm appressis integris vel obscure erosulo-ciliolatis induti. Petioli 0.5-1.3 cm longi; lamina (4-)7-10 X (2-)3-3.5 cm elliptico-lanceata apice acuto basi late acuta vel obtusa, rigidiuscula et paleaceo-ciliolata, supra modice bullato-setulosa bullis ad basim ca. 0.7-1 mm latis setula terminali 0.4-0.7 mm longa, subtus in venis secundariis pilis ca. 1-1.5 X 0.1-0.2 mm compressis modice appresso-setulosa in venulis sparse setulosa pilis plerumque 0.2-0.4 X ca. 0.05-0.1 mm, 5-nervata (pari exteriore inframarginali incluso) nervulis subtus paulo elevatis. Panicula 6-12 cm longa laxa subpauciflora; flores 5-meri, pedicellis plerumque 5-8 mm longis, bracteolis ca. 3 X 0.6-1 mm

caducis interdum non evolutis. Hypanthium (ad torum) 4-5 mm longum extus sparsiuscule paleis appressis 1-1.5 X 0.3-0.4 mm indutum; calycis tubus 0.3-0.5 mm longus, lobis 1.5-2 mm longis triangularibus appresso-ciliolatis ciliis 0.1 mm longis. Petala 14-20 X 10-15 mm asymmetricice obovata ciliolata (ciliis ca. 0.1 mm longis) alioqui glabra. Stamina essentialiter isomorphica glabra; filamenta 5.5-6.5 mm longa; antherarum thecae 6-7 X 0.6 mm subulatae poro 0.15-0.2 mm diam. ventraliter inclinato; connectivum 0.2-0.8 mm prolongatum lobis ventralibus 0.2-0.4 mm longis hebetibus. Stigma non expansum; stylus 12-13 X 0.4 mm glaber; ovarium apicem versus dense strigulosum pilis ca. 1 mm longis teretibus laevibus.

Type Collection: Reinaldo Espinosa 2954 (holotype NY), collected between Ricaurte and Diviso along the Pasto-Tumaco road, Depto. Nariño, Colombia, 11/6/1950. "Arbolito muy florido que se ve a los bordos de los bosques de altura. Flores color lila rosado, muy vistosas."

Paratypes (both Nariño, Colombia): H. Garcia-Barriga 13164 (US), from near the Río Telembí between Santander (Buenavista) and Barbacoas, elev. 840-200 m, 3-5 August 1948. "Arbusto 3 m; flores azules"; Idrobo & Kyburz 2357 (US), from Cuyambe between Altaquer and Junín, elev. 1200 m, 1 January 1957. "Arbol. Flores moradas con anteras amarillas, muy vistosas. Abundante al lado de la carretera cerca de Junín."

While showing the same vegetative pubescence, T. paleacea has floral bracts 9-12 X 4-6 mm, hypanthia 6-8 mm long completely covered with scales 2-3 X 0.6-0.9 mm, and calyx lobes 7-9 mm long. Tibouchina narinoensis seems to be a low-elevation variant of T. paleacea, the latter known only from altitudes of (2000-) 2800-3100 m. The four other species of Sect. Lepidotae are quite different in vegetative and/or hypanthial features.

BRACHYOTIUM AZUAYENSE Wurdack, sp. nov.

B. tyrianthino Macbride affinis, trichomatibus magis asperis floribus ternatis differt.

Trichomata (fiorum lamina supra excepta) densiuscule aspera. Ramuli sicut petioli pedicellique dense strigulosi pilis ca. 1 mm longis. Petioli 0.3-0.6 cm longi; lamina 0.8-1.4(-1.7) X 0.5-1.1 cm ovato-elliptica vel oblongo-elliptica apice obtuso vel rotundato basi late obtusa, rigidiuscula, supra modice strigulosa pilorum parte libera 0.4-0.8 mm longa minutissime aspera, subtus in venis primariis dense et in superficie modice setulosa, trinervata. Flores 4-meri terni ut videtur nutantes, pedicellis ca. 5 mm longis, bracteolis angustis 5-9 X 0.8-1.5 mm et 1-4 mm infra hypanthii basim insertis demum deciduis. Hypanthium (ad torum) 5-6.2 mm longum modice appresso-setosum vel laxe strigosum pilis 1-1.5 mm longis; calycis tubus 0.5-0.7 mm longus, lobis 4.3-4.7 X 3.5-4.5 mm oblongis apice acuto intus plerumque parte 1-2 mm apicali sparse strigulosis. Petala 13.5-13.8 X 11.1-11.5 mm obovata apice rotundato-truncato breviter glanduloso-ciliolata alioqui glabra. Filamenta 4.5 mm longa; antherarum thecae 5-5.5 X 0.9 mm, poro

0.25-0.3 mm diam. ventraliter inclinato; connectivum a thecis ventraliter 0.7-0.8 mm liberum vix bilobulatum. Stylus 17 X 0.5 mm glaber per 3-8 mm exsertus; ovarium apicem versus modice strigulosum pilis eglandulosis, lobis apicalibus ca. 0.4 mm longis.

Type Collection: L. Holm-Nielsen, S. Jeppesen, B. Lojtnant, & B. Ollgaard 5034 (holotype US 2728745; isotype AAU), collected in dry scrub near Km 91 on Pan American Highway north of Loja, 79° 10' W, 3° 25' S, Prov. Azuay, Ecuador, elev. 2900 m, 5 May 1973. "Small shrub to less than 1 m. Hypanthium and sepals red; petals dark violet to black."

Paratype: Holm-Nielsen, Jeppesen, Lojtnant, & Ollgaard 4810 (AAU, US), from Km 85 on Pan American Highway, 79° 11' W, 3° 35' S, Prov. Azuay, Ecuador, elev. 2850-2950 m, 3 May 1973. "Shrub to 1 m. Flowers deep purple to black."

Brachyotum tyrianthinum has trichomes only moderately scabrid, leaf blades relatively somewhat narrower, and flowers solitary on the branchlets. In the generic revision (Mem. N. Y. Bot. Gard. 8. 1953), B. azuayense would key to near B. maximo-wiczii Cogn., which has leaf blades tuberculate-strigulose above and completely covered by the pubescence beneath, hypanthial pubescence somewhat denser, sepals always glabrous within, and apical ovary lobes longer.

TRIOLENA OBLIQUA (Triana) Wurdack, comb. nov.

Diolena obliqua Triana, Trans. Linn. Soc. Bot. 28: 81. 1871.

The holotype (Triana 3873, BM) has been compared with recent collections from eastern Colombia (Putumayo, Cuatrecasas 10952), Ecuador, and Peru (Amazonas, Wurdack 2106). The pubescence length on the upper leaf surface varies considerably, but only one species seems involved. Diolena purpurea Gleason is perhaps dubiously distinct, but shows strongly reflexed scarcely compressed cauline pubescence.

TRIOLENA PEDEMONTANA Wurdack, sp. nov.

T. allardii (Wurdack) Wurdack in staminum forma affinis, foliis magnis distincte plinervatis foliis parvis minoribus differt.

Humilis usque ad 0.3 m alta; ramuli novelli petiolique dense vel modice strigosi pilis ca. 2(-3) mm longis praecipue ad caulis nodis compressis. Folia in quoque pari disparilia (12-15:1) membranacea et distanter ciliolato-serrulata, supra primum sparsissime strigulosa glabrata, subtus in venis primariis modice strigulosa (pilis ca. 1 mm longis) in venis secundariis sparse strigulosa (pilis 0.1-0.3 mm longis) in venulis superficiei glabra. Folia maiora: lamina anguste elliptica apice paullo (usque ad 1.5 cm) gradatimque acuminato basi ca. 0.5-0.7 cm asymmetricice obtusa vel rotundata, 11-16 cm longa, 3.5-7 cm lata, 7(-9)-plinervata (pari interiore subalternatim 2-4 cm supra basim divergenti) nervulis subtus planis areolis ca. 1-1.5 mm latis; petioli liberi 1-1.5 cm longi.

Folia minora: lamina ovata apice acuto basi 0.1-0.2 cm cordulata, 0.5-1.5 cm longa, 0.4-1 cm lata, 3-5-nervata; petioli 0-0.2 cm longi. Inflorescentia demum 5-10 cm longa, floribus 5-meris unilateralibus 10-20, pedicellis 1-1.5 mm longis. Hypanthium (ad torum) 2.6-2.9 mm longum praecipue basim versus sparse vel modice strigulosum pilis plerumque 0.5-0.7 mm longis; calycis tubus 0.3-0.4 mm longus, lobis interioribus 0.2-0.3 mm longis, dentibus exterioribus ca. 0.2-0.3 mm eminentibus setula terminali 0.4-0.6 mm longa. Petala glabra 4-4.7 mm longa 2-2.9 mm lata obovato-oblonga apice rotundato. Stamina dimorphica, filamentis 2-2.5 mm vel 1.5-2 mm longis, antherarum thecis 0.7-0.9 X 0.2-0.25 mm oblongis, connectivis 0.15-0.3 mm prolongatis dorsaliter ad basim ca. 0.1 mm corniculatis, appendicibus duabus ventralibus 1.5-2 vel 0.4 X 0.1 mm. Stigma paulo expansum 0.4-0.45 mm diam.; stylus 3 X 0.3-0.4 mm glaber in ovarii apicem 0.5-0.6 mm immersus; ovarium 3-loculare glabrum; capsula ca. 0.5 X 0.8 cm triquetra.

Type Collection: P. C. D. Cazalet & T. D. Pennington 5195 (holotype K; isotypes NY, US), collected in rain forest 20 km west of Santo Domingo de los Colorados, Prov. Pichincha, Ecuador, elev. 300 m, 29 October 1961. "Herb to 1 ft. Flowers cream."

Paratypes (all Ecuador): Pichincha: Cazalet & Pennington 5228 (K, NY, US), topotypical; Sparre 14093 (S), from 10 km northwest of Santo Domingo de los Colorados, alt. 400 m, 21 January 1967. Cotopaxi: Sparre 17125 (S), from Río Guapara 20 km northwest of El Corazon, elev. 250 m, 19 June 1967.

Triolena allardii has the larger of each leaf pair with essentially basal primary veins and the oblong-lanceate smaller one 2.5-4.5 X 1.2-2 cm; T. obliqua (vide supra) has generally narrower large leaves with only 3(-5) primary veins, looser hypanthial pubescence, and smaller inflorescences, as well as larger petals and anther thecae. Other relatives, both with shorter (0.1-0.2 mm) ventral appendages on the small stamens and lacking the prominent flattened cauline hairs at the nodes, are T. spicata (Triana) L. Wms. and T. pluvialis (Wurdack) Wurdack (the latter having the large leaves with longer petioles and relatively broader blades). A good match for the Triana holotype of T. spicata is Alston 8619, from near Buenaventura, El Valle, Colombia. The proper disposition of Panamanian collections presently referred to T. spicata remains somewhat uncertain.

MICONIA KRAENZLINII Cogn. subsp. AEQUATORIALIS Wurdack, subsp. nov.

Petalis staminibusque maioribus filamentis sparse glanduloso-puberulis differt.

Type Collection: P. R. Bell 471 (holotype BM), collected at Chaupi-Sagcha, Pululagua, Prov. Pichincha, Ecuador, elev. ca. 1800 m, 15 April 1951. "Flowers white."

The typical subspecies, still known only from the original collection from Cali, El Valle, Colombia, has the hypanthium plus calyx 5 mm long (rather than ca. 3.8-4 mm), petals 6-6.5 mm long (rather than 8.5-10 mm), filaments glabrous, large and small

anther thecae 4.5 and 3.3 mm long (rather than 5.7-5.8 and 4-4.2 mm), a distinct dorsal calcar at the connective base, and the stylar puberulence sparse and confined to the basal 0.5 mm (rather than moderate and on the basal 1/2). The two subspecies are the same in vegetative and other reproductive features (including a few glands edging the connective base, and externally densely puberulent petals). In the typical subspecies, all of the 18 examinable flower buds were 5-merous (although Cogniaux apparently saw some 6-merous flowers) and in the Ecuadorian specimen each of 9 buds was also 5-merous. The general aspect of *M. kraenzlinii* is somewhat like that of *M. versicolor* Naud. (which is also known from the type localities of *M. kraenzlinii*), but the floral details are quite different and the species affinities seem distant.

MICONIA CERCOPHORA Wurdack subsp. ESETULOSA Wurdack, subsp. nov.

Foliis ubique esetulosis differt.

Type Collection: *G. Harling & L. Andersson 13959* (holotype GB; isotype US), collected in riverine woods at Namírez ca. 5 km north of Cumaraza, Prov. Zamora-Chinchipec, Ecuador, elev. ca. 900 m, 24 April 1974. "Tree ca. 5 m. Corolla white. Anthers reddish violet."

In both other subspecies, the leaf blades are sparsely setulose above. The floral dimensions in the Namírez collection are like those of subsp. *canelosana* Wurdack; however, the connective glands are less abundant in the large anthers and absent or sporadically 1-2 in the small anthers. Vegetatively the new subspecies is like *M. donaeana* Naud. and *M. littlei* Wurdack, but the filaments and style are glabrous. A fruiting collection (*Holm-Nielsen & Jeppesen 499*) from 2 km north of Mera, Pastaza, elev. 1050 m, has leaves above exceedingly sparsely and caducously setulose, but probably represents the typical subspecies.

MICONIA SPARREI Wurdack, sp. nov.

*M. paleaceae* Cogn. in aspectu affinis, ramulorum inflorescentiarumque pilis barbellatis foliis breviter plinervatis calycis lobis interioribus prominentibus filamentis glabris antherarum connectivis ad basim glandulosis ovarii apicibus stellulato-puberulis differt.

Ramuli (dense, ca. 4-7 mm) petioli (modice, ca. 3-5 mm) foliorum subtus venae primariae basim versus (sparsiuscule, 1-4 mm) et inflorescentia (densiuscule, ca. 2-4 mm) setosi pilis basim versus robustis 0.1-0.25 mm diam. sparse barbellatis et modice pilis subpinoideis 0.1-0.2 mm longis furfuracei. Petioli 3-5 cm longi; lamina ca. 30 cm longa et 15 cm lata, oblongo-elliptica apice breviter (ca. 1.5 cm) subabrupteque acuminato basi obtusa, firme membranacea et serrulata (dentibus ca. 0.5-1 mm profundis et 1.5-3 mm inter se distantibus), supra margines versus sparse pilis gracilibus 1.5-2 mm longis (caducis ?) induta, subtus in venis secundariis sparse caduceque puberula pilis subpinoideis ca. 0.1 mm longis in superficie glabra,

breviter (1-1.5 cm) 7-plinervata (pari debili inframarginali incluso) nervis secundariis ca. 5-7 mm inter se distantibus nervulis subtus planis obscuris areolis 0.3-0.5 mm latis. Panicula ca. 17 cm longa multiflora ramis primariis oppositis; flores 5-meri glomerati subsessiles (pedicellis obscuris ca. 0.3 mm longis), bracteolis ca. 1 mm longis lanceatis persistibus puberulis. Hypanthium (ad torum) 2.4 mm longum subsparse stellulato-puberulum pilis 0.1(-0.2) mm altis; calycis tubus ca. 0.3 mm altus, lobis interioribus ca. 0.5 mm altis ovatis dentibus exterioribus minutis non eminentibus pinoideo-puberulis (pilis 0.1-0.2 mm longis); torus intus glaber. Petala 3.9-4 X 1.7-1.8 mm obovato-oblonga extus minute granulosa. Stamina paulo dimorphica; filamenta 3.2 vel 2.9 mm longa glabra; antherarum thecae 2.3-2.4 vel 2 X 0.35 X 0.4 mm anguste oblongae apice paulo emarginato poro ca. 0.3 mm diam. terminali vel paulo dorsaliter inclinato; connectivum non prolongatum ad basim paulo expansum glandulis 6-8 vel 2-4 et ca. 0.1 mm diam. ornatum. Stigma expansum 0.8-0.9 mm diam.; stylus 7 X 0.4 mm glaber in ovarii apicem 0.3 mm immersus; ovarium 3-loculare et ca. 1/2 inferum apice modice stellulato-puberulo et glandulis paucis inconspicuis induto.

Type Collection: B. Sparre 19290 (holotype S), collected in tropical rain forest near the Mision Salesiana at Gualaquiza, Prov. Morono-Santiago, Ecuador, 3 October 1967.

Miconia paleacea has the branchlets and inflorescence setose with smooth hairs, basally nerved leaf blades, an essentially truncate calyx with setulose external teeth, torus within gland-edged, filaments basally sparsely glandular-puberulous, larger anthers with the connective not prominently glandular basally, stigma only 0.4-0.45 mm diam., and ovary merely glandular at the apex. Despite the somewhat similar vegetative aspect, I do not believe that M. sparrei is really closely related to M. mazanana Macbride (known from Napo in Ecuador, as well as Peru and Brazil) which has the leaf blades glabrous above, obviously pedicellate and larger flowers (petals 6.5-6.8 X 2.5-2.7 mm), glandular-puberulous filaments, style, and ovary apex, and a 5-celled ovary. J. Schunke 6949 (Puerto Pizana, San Martín, Peru), lacking floral details, represents a taxon closely related to M. sparrei (similar vegetative pubescence), but with long-attenuate leaf blade bases, 4(-5)-merous fruit, and longer trichomes on the external calyx teeth.

MICONIA PROCUMBENS (Gleason) Wurdack, comb. nov.

Clidemia procumbens Gleason, Bull. Torrey Club 58: 255. 1931.

The species is closely related to M. lamprophylla Triana, differing in the predominantly 5-nerved leaf blades which are obtuse to rounded at the base and with laxer venule reticulation, flowering hypanthia more-or-less glandular-setose, and torus within glabrous. The inflorescence in M. procumbens is truly terminal, rather than lateral; the flowers are

predominantly 5-merous, the original placement in Sect. Sagraea thus erroneous.

MICONIA CAZALETII Wurdack, sp. nov.

M. smaragdinae Naud. in aspectu similis, foliis distincte plinervatis staminum maiorum connectivis ad basim cordiformibus staminum minorum poris distincte dorsaliter inclinatis differt.

Ramuli sicut foliorum subtus venae primariae inflorescentia hypanthiaque primum modice vel sparse resinoso-granulosi glabrati; linea interpetiolaris non evoluta. Petioli 1-2 cm longi; lamina (14-)20-32 X (4-)6-11 cm oblongo-elliptica apice gradatim hebeti-acuminato basi acuta, tenuiter membranacea et essentialiter integra, in superficie glabra, 1-2.5 cm 3-plinervata (pari exteriori debili neglecto) nervis secundariis ca. 5-7 mm inter se distantibus nervulis subtus planis laxiuscule reticulatis areolis 0.5-1 mm latis. Panicula 12-23 cm longa multiflora ramis primariis 2-4 in quoque nodo; flores 5-meri plerumque subsessiles (pedicellis supra articulationem ca. 0.3 mm longis), bracteolis 0.3-0.5 mm longis linearibus caducis. Hypanthium (ad torum) 2-2.3 mm longum; calycis tubus ca. 0.3 mm longus, lobis interioribus 0.2-0.3 mm altis late ovatis dentibus exterioribus minutis. Petala 3 X 1.5-1.7 mm obovato-oblonga sparsiuscule resinoso-granulosa. Stamina dimorphica glabra; filamenta 3-3.7 mm longa; antherarum thecae oblongo-subulatae poro 0.1-0.15 mm diam. minuto. Stamina maiora: thecae 2.6-3 mm longae, poro ventraliter inclinato, connectivo paulo (0.1-0.15 mm) prolongato, appendice basali cordiformi ca. 0.8 mm longa. Stamina minora: thecae 2-2.3 mm longae, poro dorsaliter inclinato, appendice basali ca. 0.6 mm longa. Stigma paulo expansum 0.4 mm diam.; stylus 6.7-6.8 X 0.15-0.2 mm glaber in ovarii apicem 0.1 mm immersus; ovarium 3-loculare et 1/3-1/2 inferum, apice granuloso.

Type Collection: P. C. D. Cazalet & T. D. Pennington 7523 (holotype US 2405354), collected at Taisha, Prov. Morona-Santiago, Ecuador, elev. 450 m, 26 January 1962. "20' shrub. Peduncles red. Petals pale purplish; fruit pale green."

Paratypes: Colombia: Kjell von Sneidern A1332 (US), from Morelia, Caquetá, elev. 150 m, 14 Nov. 1941. "Height 5 m. Flowers pink"; J. A. Ewan 16743 (US), from near San Diego de Colorado above Puerto Asis, Putumayo, elev. 650 m, 11 January 1948. "Shrub 2-3 m". Ecuador, Prov. Napo: Harling, Storm, & Ström 6990 (GB, US), from Hacienda Cotapino (Concepción), elev. ca. 500 m, 19-20 February 1968. "Bush 2-3 m. Inflorescence white."

Miconia smaragdina has leaf blades barely (0.5-1 cm) pseudoplinerved, the connectives of the large stamens with only a ventral bilobulate appendage, and the anther pores in the small stamens terminal or ventro-terminal; the Ecuadorian population of M. smaragdina, with relatively narrower than typical leaf blades, occurs at somewhat higher elevations (1100-1500 m) than M. cazaletii. Miconia gracilis Triana, found in Ecuador only in the western lowlands, has basally nerved leaf blades

with laxer venule areoles, more prominent calyx lobes, and sparsely glandular stamen connective appendages. Miconia rivalis Wurdack has distinctly 5-nerved leaf blades rounded to cordulate at the base, small anthers with a ventrally inclined pore, and a more expanded stigma. The Ecuadorian collections of M. cazaletii were mentioned in the discussion of M. oligantha Wurdack (Phytologia 26: 6. 1973), which has different foliage and stamens. Harling, Storm, & Ström 7468 (GB, US, fruiting) has tentatively been referred to M. cazaletii, but shows sparse gland-tipped hairs along the primary leaf veins beneath and on the hypanthia. An apparently undescribed relative of M. cazaletii has been incompletely collected in Junín (Killip & Smith 26665, 26747) and Cuzco (Madison 10081, 10094), Peru; the bud stamens show expanded connective bases, but the leaves are sparsely fine-setulose above. The widespread and variable M. prasina (Sw.) DC. has not yet been found in Ecuador, but surely is to be expected (at least in the eastern lowlands); it differs from M. cazaletii in the laxer leaf venule areoles and the stamen connective appendages only ventral.

MICONIA ORARIA Wurdack, sp. nov.

M. rivali Wurdack in floribus affinis, foliorum subtus pubescentia discreta plus minusve persistenti differt.

Ramuli obtuse sulcato-quadrangulati sicut petioli foliorum subtus venae primariae inflorescentia hypanthiaque indumento appresso stellulato-lepidoto vix indiscreto omnino obtecti; linea interpetiolaris non evoluta. Petioli 3-5.5(-8) cm longi; lamina (11-)18-31 X (4.5-)8-17 cm elliptica vel paulo ovato-elliptica apice breviter (1-2 cm) hebeti-acuminato basi late acuta vel obtusa, firme membranacea et integra, supra glabrata, subtus densiuscule pilis stellulato-lepidotis appressis ca. 0.15 mm diam. induta, 5-nervata nervis secundariis plerumque 5-7 mm inter se distantibus nervulis subtus planis obscuris ob pilos occultis laxe reticulatis (areolis ca. 1-1.5 mm latis). Panicula 15-22 cm longa multiflora ramis primariis in quoque nodo duobus; flores 5-meri subsessiles non secundi, bracteolis ca. 1 mm longis angustis caducis. Hypanthium (ad torum) 1.9-2 mm longum; calycis tubus 0.3 mm longus, lobis interioribus ca. 0.3 mm altis remotis, dentibus exterioribus lobos interiores aequantibus. Petala 2 X 0.8-1 mm obovata glabra. Stamina paulo dimorphica glabra; filamenta 2-2.2 mm longa; antherarum thecae 1.6-1.8 vel 1.4-1.6 X 0.25 X 0.3 mm anguste oblongae, poro lato 0.25 mm diam. ventraliter inclinato; connectivum paulo (0.2-0.4 mm) prolongatum ad basim praesertim in stamina maiora expansum appendice 0.25-0.3 mm longa. Stigma expansum 0.5 mm diam.; stylus 5 X 0.15-0.2 mm glaber; ovarium 3-4-loculare et 1/2 inferum apice glabro.

Type Collection: B. Sparre 18349 (holotype S), collected in mangrove forest at El Chorro on Río San Antonio near San Lorenzo, Prov. Esmeraldas, Ecuador, 22 August 1967.

Paratype: E. L. Little 6306 (K, NY, US), from 3 km southeast of San Lorenzo, Esmeraldas, Ecuador, elev. ca. 1.3 m,



20 April 1943. "Tree 50 ft. in height, DBH 4 inches. Flowers white. Common in understory of rich virgin wet forest."

The lower leaf surfaces in very young leaves of M. rivalis have a coating of subamorphous-stellate hairs which are soon deciduous; the blade margins are rather distinctly undulate-serrulate. Miconia oraria rather resembles M. idroboi Wurdack and M. argentea (Sw.) DC. (both with ancipital branchlets, somewhat larger foliar trichomes, and connective bases of the large stamens barely expanded), as well as M. elata (Sw.) DC. (with distinct interpetiolar ridges on the branchlets, undulate-serrulate leaf blades, barely undulate calyx limb, unexpanded connective bases, and moderately stellate-puberulous ovaries which are 0.8-0.9 inferior). Possibly to be associated with M. oraria is a fruiting collection from El Valle, Colombia (Cuatrecasas & Willard 26011); from Chocó, Colombia, are two other fruiting or fragmentary collections (Triana 4074; Cuatrecasas & Llano 24078), which have the pubescence on the lower leaf surfaces very scanty, but otherwise suggestive of M. oraria.

MICONIA EMENDATA Wurdack, sp. nov.

M. sprucei Triana affinis, ramulorum internodis glabris foliis tenuioribus hypanthiis ad anthesim essentialiter glabris differt.

Ramuli paulo quadrangulati demum teretes primum sicut folia paulo furfuracei mox glabrati. Petioli 0.4-0.8 cm longi graciles; lamina (6-)7-12(-14) X (2-)3-4(-5) cm elliptica apice per 1-2.5 cm subabrupte caudato-acuminato basi acuta, membranacea et obscure distanterque undulato-serrulata, ubique ad maturitatem glabra, breviter (0.3-0.5 cm) 3-plinervata nervis secundariis principalibus ca. 0.3-0.4 cm inter se distantibus venulis subtus planis obscuris laxe reticulatis (areolis ca. 1 mm latis). Panicula 2-4 cm longa pauciflora; flores 5-meri, pedicellis plerumque 3-3.5 mm longis, bracteolis 0.4-0.5 X 0.1 mm linearibus persistentibus ca. 0.2 mm infra hypanthii basim insertis. Hypanthium (ad torum) ca. 2.4 mm longum; calycis tubus ca. 0.3 mm altus, lobis interioribus ca. 0.2 mm altis intus furfuraceis, dentibus exterioribus minutis lobos interiores aequantibus. Petala 2.5 X 0.9 mm obovato-oblonga ubique apicem versus modice granulosa. Stamina paullulo dimorphica glabra; filamenta 2.6-2.7 vel 2.5 mm longa; antherarum thecae 2.9-3 vel 2.5-2.6 X 0.3 mm subulatae poro 0.1 mm diam. dorsaliter inclinato; connectivum non vel vix (0.1 mm) prolongatum ventraliter non appendiculatum dorsaliter dente hebeti 0.1 vel 0.05 mm longo descendenti armatum. Stigma non expansum; stylus 5.5 X 0.2 mm glaber in ovarii collum 0.3 mm immersus; ovarium 3-loculare et 1/2-2/3 inferum apice sparse granuloso; fructus siccus paulo 10-costatus calyce persistenti.

Type Collection: G. Tessmann 5238 (holotype S; isotype NY), collected along "Stromgebiet des Maranon von Iquitos aufwärts bis zur Santiago-Mündung am Pongo de Manseriche," Depto. Loreto, Peru.

Paratypes (all Peru): Loreto: Soledad, Río Itaya, elev. 110 m, Killip & Smith 29709 (US). "Tree 10-12 feet"; Alto Río Itaya, elev. 145 m, Llewelyn Williams 3465 (US). Junín: Puerto Bermudez, elev. 375 m, Killip & Smith 26425 (US). "Shrub 12-15 ft." and 26503 (US). "Slender much-branched shrub."; San Nicolas, Pichis Trail, elev. 1100 m, Killip & Smith 25974 (US). "Tree 12-15 ft.; flower parts white."

Miconia sprucei, known to me from only one recent collection (Prance et al 15488, Río Uneixi, Amazonas, Brazil), has young branchlets, primary leaf veins beneath, inflorescences, and hypanthia moderately stellulate-puberulous, hypanthia plus calyx (dry) 3-3.5 mm long (rather than 2-2.5 mm, dry), and petals externally stellulate-puberulous (rather than granulose on both sides). Unfortunately the Uneixi material lacks stamens and style. In general aspect, M. emendata is rather like M. juruensis Pilger and M. amacurensis Wurdack, both of which have the stamen connectives bilobulate ventrally (as well as other individual deviations). Tessmann 5238 was collected at Soledad in June 1925 (fide the NY specimen) and was distributed as M. sprucei; most of the paratypes were distributed as Ossaea micrantha (Sw.) Macf.

MICONIA POORTMANNII (Cogn.) Wurdack, comb. nov.

Tococa poortmannii Cogn., DC. Mon. Phan. 7: 971. 1891.

Miconia espinosana Gleason, Phytologia 3: 28. 1948.

The holotypes for both the Cogniaux and Gleason names have been compared. The Poortmann collection was from Cisne on the Loja-El Oro border. Relatives of M. poortmannii include M. rimbachii Wurdack and M. inanis Cogn. & Gl. ex Gleason.

MICONIA OMBROPHILA Wurdack, sp. nov.

Sect. Amblyarrhena. M. inani Cogn. & Gl. ex Gleason affinis, foliorum subtus venulis arcte reticulatis floribus minoribus differt.

Ramuli primum quadrangulati demum teretes sicut folia inflorescentia hypanthiaque primum obscure amorpho-squamulosi mox glabrati. Petioli 1-1.8 cm longi; lamina 9-11.5 X 3-3.5 cm oblongo-elliptica apice per 1-1.5 cm acuminato basi acuta, firme membranacea et integra, 3-plinervata (nervis primariis lateralibus per 0.5-0.8 cm costa poculiforme coalitis) nervulis subtus planis areolis 0.3-0.5 mm latis. Panicula ca. 7 cm longa pauciflora, pedicellis ca. 5-6 mm longis et ca. 1 mm infra hypanthium articulatis, bracteolis deciduis non visis; flores 5-meri. Hypanthium (ad torum) 2.5 mm longum; calycis tubus 0.3 mm longus, lobis interioribus 1.2 mm longis triangularibus, dentibus exterioribus lobos interiores aequantibus vel paullulo (0.1 mm) excedentibus; torus intus glaber. Petala 4 X 3.3-3.6 mm oblongo-suborbicularia dense granulosa. Stamina essentialiter isomorphica; filamenta 3-3.8 mm longa modice glanduloso-puberula; antherarum thecae 2.2-2.3 X 1 X 1 mm oblongae et apicaliter dorsaliter curvatae, poro 0.15 mm diam. terminali; connectivum nec prolongatum nec appendiculatum. Stigma capitellatum 1.8-

2 mm diam.; stylus 6 X 0.7-0.8 mm modice glanduloso-puberulus in ovarii apicem 0.4 mm immersus; ovarium 5-loculare et ca. 2/3 inferum glabrum.

Type Collection: E. L. Little, Alberto Ortega, Alfredo Samaniego, & Francisco Vivar 632 (holotype US 2728825), collected in humid forest of the Cordillera Cutucú 5-10 km east of Logroño, 2° 37' S, 78° 6' W, Prov. Morona-Santiago, Ecuador, elev. 1200-1500 m, 7-9 Oct. 1975. "Arbol de 8 m, 10 cm diam."

Miconia inanis has lax (areoles mostly 1-1.5 mm wide) leaf venule reticulation and considerably larger flowers (hypanthium ca. 4.5 mm long, petals 6-6.5 X 4.5-5 mm, anthers 3-3.2 mm long); Miconia pausana Wurdack has thicker and relatively wider leaf blades, as well as smaller flowers (calyx lobes 0.5 mm long, petals 2 X 1.7-1.8 mm) with glandular ovary apices. In stamens and pistil, M. longisepala Gleason closely resembles M. ombrophila, but the Peruvian species differs in the smaller basally nerved leaf blades, much longer sepals, and somewhat larger petals.